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REVIEW OF THE SECOND QUARTER:

Scattered Signs of a Business Revival

The first faint rumors of recovery are providing sweet music for businessmen who have struggled through the recession which set in late last summer. But they will be wise to temper their faith in a pickup with the realization that the first favorable statistics do not restore a business boom.

As the second quarter of 1958 moved on, there was scattered evidence of brighter business performance – in orders, production, employment, income, and retail sales. In some cases the improvement was only in a diminishing rate of continuing decline. Yet even such changes helped to buoy up business sentiment.

The shakedown process, unpleasant though it was, left the economy with a sounder base to rebuild upon. Inventories have been liquidated at rapid rate, rate of investment in new productive capacity is more sustainable, credit demands have been eased relative to available funds, and personal debt has declined somewhat more than income. Business liquidity is healthier. Money rates are lower.

Perhaps the chief concern is that the resistance shown by many prices to down-

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ward adjustment may mark the presence of still strong though latent inflationary forces.

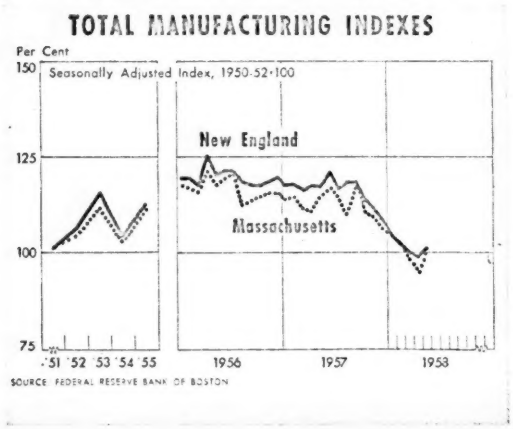
The New England manufacturing production index turned up in May to a seasonally adjusted value of 101, after a steady decline from 118 in last September to 99 in April. Purchasing agents report an improving flow of new orders, but a continuing disposition to meet them in part from existing inventories.

Nonfarm employment in New England, after declining during the first quarter, held stable in April, and rose more than seasonally in May, but was still 4.5 per cent less than in May 1957. Major weakness continued to be in durable-goods manufacturing industries and textiles. Strong seasonal expansion of jobs occurred in construction and other nonmanufacturing fields.

Partly because of the slight improvement in job opportunities, and partly because of some exhaustion of benefit periods, the number of insured unemployed in the six states decreased gradually from early April, but at mid-year was still twice the year-ago level. The May analysis of metropolitan labor market areas estimated unemployment to be in excess of 12 per cent of the labor force in Providence and Fall River, and in excess of 9 per cent in Lowell, Lawrence, New Bedford, New Britain, and Waterbury.

Average weekly hours worked by New England factory employees in some areas reversed the previously decreasing trend, but the May man-hour index dropped further to 77.4 per cent of the 1950 monthly average. A continuing slow rise in average hourly earnings offset shorter workweeks for some workers, yet only in Massachusetts and Rhode Island were May average weekly earnings higher than a year ago. Aggregate personal income was supported by substantial unemployment benefits and by increased gross farm income.

Total national retail sales appear to have expanded generally since February and March after allowance for varying seasonal factors, although the improvement is not so pronounced at department stores. New England department store sales, seasonally adjusted, during the second quarter of the year were about 5 per cent behind the corresponding 1957 pace – a slightly improved relationship from the first quarter. Recent sales trends have been fairly good for men's wear, smallwares, radios and records, but poorer for women's accessories and furniture. Basement sales performances continue to lag behind those in the main stores. Suburban stores are doing better than those downtown.



Merchandise ordering policies have been generally cautious, and stocks carefully controlled, especially in departments where sales have been slack. Collection ratios have held up well, with accounts receivable running about 5 per cent less than a year ago.

New Englanders still lacked either the financial means or the disposition to support the sagging automobile market. April and May new car registrations were 19 per cent fewer than those of a year earlier.

The failure of many prices to adjust to the recent recessionary developments has contributed to the slowed volumes of sales and production, and poses the threat of renewed inflationary pressures in the future. Prices of some basic commodities have responded to lessened demand, but the wholesale commodity price index has shown little change in recent months. The Massachusetts retail price index receded slightly in June for the second consecutive month, but remained 3.3 per cent higher than a year ago.

Banking developments reflected the general course of business. Commercial loans at New England banks continued to decline moderately during most of the second quarter, largely reflecting inventory liquidation and some funding of bank debt. At the end of the period these loans were about 6 per cent below the levels of a year ago. Declines were reported for virtually all classes of borrowers, with sales finance, food processing, and textile companies showing sharpest drops. Loan demand in June for tax purposes was somewhat less than a year ago and more moderate than in March.

Demand for residential mortgage loans tended to strengthen in response to increased availability of funds at lower cost. Both commercial and savings bank lenders increased their holdings of mortgages. Consumer loans at commercial banks expanded during the quarter at a substantially slower rate than a year earlier.

Monetary authorities supplied funds to the market during the quarter by open market pur-

chases of U. S. securities as well as by a reduction in required bank reserves. In response to this increased supply of funds and the reduced demand for funds, short-term interest rates tended to fall during most of the quarter. Leading banks marked down the rates charged on prime loans from 4 to 3½ per cent, following a reduction in discount rates at Federal Reserve Banks, and complementing changes in rates in other sections of the market. Rates on Treasury bills and prime commercial paper fell sharply, the former dropping to less than 1 per cent. Long-term rates on corporate, municipal, and U. S. Government bonds declined only slightly.

Construction in New England picked up, in some respects more than seasonally. Much of the increased activity has been in public works, in large-scale governmental housing developments, or in private housing financed with the relatively easy credit terms under the VA and FHA programs. New England construction contracts reported by F. W. Dodge Corporation for April and May were 8 per cent less in aggregate value than those for the corresponding months of 1957, although it should be noted that May 1957 was an all-time record month.

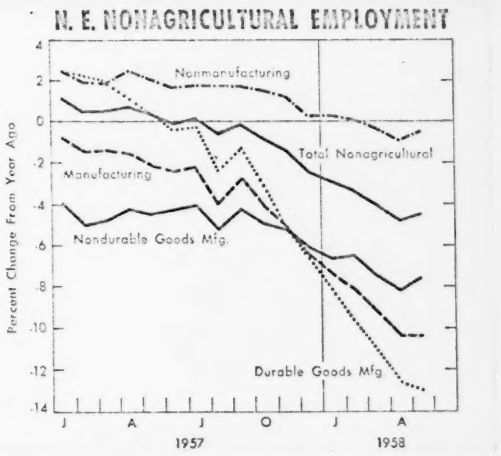
Agriculture has, by contrast, shown strength during the current recession. Output and the demand for food products in general have remained at high levels. Production costs have steadily risen, but higher prices and increased production have meant some improvement in gross farm income and a probable smaller, but significant, increase in net farm income.

During the first half of 1958, New England agricultural production was well above year-ago levels. The increase in milk production and broilers more than offset about a 5 per cent decrease in egg production.

Farm prices averaged somewhat higher. Prices for eggs were up 18 per cent, and potato prices in the first five months of 1958 jumped 100 per cent over the extremely low levels in the comparable 1957 period. Broiler prices were 6 per cent above a year ago. Milk prices were slightly lower, mainly due to lessened consumption, continued heavy production, and a drop in price-support levels.

Conditions were less bleak for New England's **fisheries** during the second quarter. Compared to a year earlier, landings were close to the same, cold storage holdings reduced, supply and demand moderate, and prices generally higher.

May, with a three-day Memorial Day Weekend, opened New England's **summer vacation business** season brightly. Resort operators reported 8 per cent more guests than in May 1957, which in turn had a 6 per cent gain over May



1956. Less than ideal weather, however, reduced June occupancies 5 per cent below those of June 1956. Inquiries for summer accommodations have been numerous, though slow in becoming firm reservations.

Durable-Goods Manufacturing

The impact of the recession upon primary **and fabricated metals** producers has been particularly severe. New England's dwindling steel furnaces operated in the second quarter at about 40 per cent of capacity and experienced little pickup in late spring. New and modernized wire and cable facilities were under construction.

Demand for pig iron was very sluggish. Except for pipe production, foundry operations were lightly scheduled. Operations at copper and brass plants continued to be slow, with heavy inventories and little demand except for the production of some consumer goods.

May employment at **nonelectrical machinery** shops in New England was the lowest since March 1950. Machine tool orders fell off again after a slight rise during the first quarter. Order backlogs sunk to a postwar minimum equal to 2.6 months' production.

Textile machinery production remained in the doldrums, with foundry tonnage only half that of a year ago, and some operations are scheduled for removal to the South. Prospects appear somewhat brighter in the paper machinery field, but orders were slow, staffs reduced, and 4-day weeks fairly general.

Employment at **electrical machinery** plants in the region continued to decline, and in May was 14 per cent less than a year ago. Average workweeks were also trimmed. This over-all contraction took place despite an influx of government contracts for communications equipment for Massachusetts electronics firms. These contracts were 76 per cent greater during the

first five months of the year than for the corresponding period of 1957.

New England's **transportation equipment** industry experienced further decline in activity during the second quarter. May employment was 10 per cent less than a year ago. Government contracts to Connecticut aircraft equipment plants were 61 per cent less through May of 1958 than for the corresponding period of 1957. Shipbuilding activity was based primarily upon 1957 government contract awards. Automobile assemblies ceased permanently at the former Ford plant in Somerville, and curtailed operations prevailed at other plants in the region.

New England's **ordnance** industry provides the exception to declining trends in manufacturing. Increasing emphasis on guided missiles programs brought employment at Massachusetts plants in May to a level 70 per cent higher than a year ago. Government ordnance contracts awarded to Massachusetts firms in the first five months of 1958 were nearly five times those of a year earlier. A less spectacular rise in ordnance contracts benefited Connecticut producers.

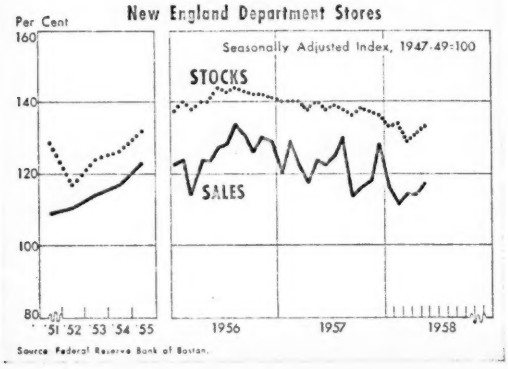
Employment in the **lumber** and allied products industry reached a postwar low in the second quarter, as manufacturers tried to reduce inventories. Orders picked up slightly as the quarter closed. Prices remained firm for most grades of white pine, birch, beech, and maple, and advanced somewhat for hardwood flooring.

The regional **furniture** industry experienced a similar drop in employment during the quarter to the lowest level since 1949. However, a rising flow of orders in June, coupled with belief that merchants' stocks must soon be replenished, permitted some feeling of optimism to arise.

Nondurable-Goods Manufacturing

Activity at New England's **textile** mills contracted further during the second quarter. In the 12 months ending in May the regional industry lost 20,200 more workers. Liquidation was completed at several mills and others were running out work in process. Weakness in cottons and synthetics more than offset gains in woolens, worsteds, and knitted goods.

SALES AND STOCKS
New England Department Stores



Source: Federal Reserve Bank of Boston.

Recently some measure of guarded optimism has arisen as order backlogs improved. Prices have firmed somewhat, and vacation shutdowns will be more limited. Inventories held by garment makers are felt to be low; any pickup in sales should be quickly reflected all along the production line. Demand for industrial fabrics has also strengthened.

New England **apparel** output slackened seasonally from February. While some plants ran out operations for spring and summer lines, others commenced work on fall and winter merchandise. Second quarter employment was generally less than a year ago. As store buyers have made commitments for fall apparel items cautiously, and as garment makers have limited their purchases of fabrics, a pickup in retail sales could make late orders difficult to fill.

New England **shoe** production was at its seasonal low point in May, but some women's novelty shoe plants got into volume output of fall and winter lines. Production improved further in June as orders for fall and winter footwear built up. New Hampshire plants benefited from increased government orders. In general, however, production and employment were less than a year ago. Retailers have ordered cautiously, and consumers have traded down to lower priced lines of shoes.

Producers of **rubber products** in the area curtailed operations further during April and May, and the work force was about 11 per cent under the year-ago level. Output of footwear and of automobile products declined, while that of elastic yarn held steady.

Jewelry operations declined sharply after orders were completed for the Easter market. Despite a quickened production pace after mid-May at some costume jewelry plants, 1958 business for the industry as a whole has been the poorest in many years. Early orders for fall merchandise are lighter than usual, but sentiment is hopeful for a later improvement.

Production and employment in the New England **pulp, paper and paperboard** industry continued to drop in the second quarter. Small nonintegrated paper mills and converters in southern New England appeared to be hardest hit. As the quarter closed, there were hopes that improved business noted by producers of some specialty paper products might work back through the entire industry.

Demand for **chemical** products slowed down somewhat, and some prices were trimmed competitively.

Research-Based Enterprises, Part II

Financing the New Venture

The scientist who starts his own firm is looking for freedom to develop a product beyond the restraints of a laboratory. In establishing a new firm he faces the age old problem of financing, which is even more difficult for the research-based enterprise than the ordinary business.

As a scientist, he'll have trouble communicating the possibilities of his venture to potential investors. As an independent minded entrepreneur, he'll resist control by his backers. And as the developer of a new product, he and his backers will have to wait a long time for the payoff.

These are some of the problems a research-based enterprise must face. The factors which make investments attractive—an appealing product, an obvious market, a record of successful management—are missing in the new technical enterprise.

A major barrier to successful negotiations between potential backers and the research-based enterprise is the inability of the technical entrepreneur to sell his idea to nontechnical people. Instead of discussing commercial possibilities of the venture, the prospectus concentrates on technical aspects of research.

As an apparent carry-over from their research experience, these technical entrepreneurs are reluctant to predict the outcome of their work. They cannot make estimates which the financial backer requires, such as future financial requirements and rates of growth.

A common experience among backers of these firms is that initial capital is never enough. The entrepreneur soon is back for more. Some of this can be attributed to technical problems, but much of it is the result of inability or unwillingness to plan.

If the entrepreneur can convey a picture of his plan to the business world, he stands a lot better chance of getting money. One group prepared a complete statement of anticipated sales, costs, and earnings for each of several stages of growth, with charts and tables and lucid arguments for their projections. They received support from the second organization they approached.

Perhaps the most serious disadvantage which the technically based firm faces in financing is the long waiting period for the return on investment. There is often a long wait for the first dollar of sales, and a much longer wait for the first dollar of net earnings. This is one of the most difficult concepts to convey to the backers of these firms. The more sophisticated backers are willing to wait several years for the first return on their investment. But it is difficult to find anyone willing to wait 10-15 years for the payoff.

Even when they can get it, entrepreneurs of research-based enterprises are reluctant to seek outside financing. They fear they will lose control of the firm as backers seek to participate in management. Sometimes this fear reflects direct personal experience with backers hard to get along with, but often it is a general suspicion of outsiders meddling in the business.

The research-based firm particularly needs outside capital because of its inability to generate internal financing. Growth may not be possible without outside financing of a long-term nature. In the firm's early stages profits are small, if any, and it is difficult to accumulate any surplus.

This is illustrated by one New England firm in electronic components which was doing business with the government on a cost-plus, fixed-fee basis. The government paid every 30 days, allowing the firm to operate on bank financing.

"It is hard to accumulate any capital from our 6-7 per cent profit allowed by the government," a principal of the firm said. "We can't really lose money, but how much can we accumulate? For example, we have been doing about $250,000 in volume, resulting in a surplus of about $12,000. It would take us a minimum of $100,000 to get into something new."

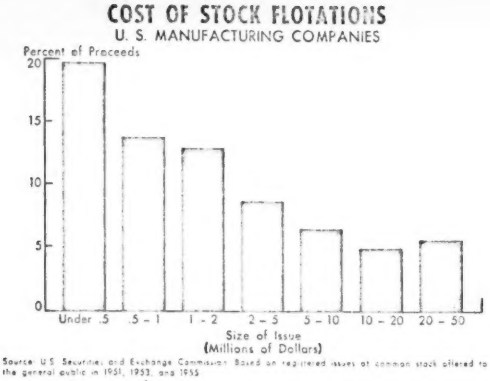
Whether they like it or not, most research-based firms have to look to outside financing.

Sources of Financing

The major source of financing small research-based firms is private individuals. Some of these people keep in close touch with investment houses, brokers, and generally people who know about investment possibilities. They do not advertise. They do not want a line of capital seekers at their door. Most of them do not want to manage. They provide money only to entrepreneurs they feel will not need surveillance.

Other major sources of financing are:

The public—Few of the large investment houses are interested in attempting a public offering for a brand new venture. Most of them do not seek out the new technical firms, but they do provide a useful information channel to private investors. As one investment counselor said,



Source: U.S. Securities and Exchange Commission. Based on registered issues of common stock offered to the general public in 1951, 1953, and 1955

"A $100,000 issue is harder for us to sell than $1,000,000."

Public issues are not generally feasible while the firm is still small. For small offerings, costs will take a large percentage of proceeds, as shown in the chart above. The chart is based on costs for manufacturing companies in general, and would probably be even higher for the firm engaged in strictly new developments.

Banks – Except in special cases where they allow a line of intermediate credit, banks are not an important source of venture capital. At least two cases were encountered where a credit line constituted almost a venture capital investment. The bank sought technical appraisal help, and based the loan on a technical estimate of the firm's possibilities. These were exceptions. Many of the largest banks do not maintain a technical staff to evaluate loan prospects.

The banker, a nontechnical person, relies on the reputation of the firm seeking financing. The banker makes his decision on the balance sheet and the profit and loss statement.

Venture-capital firms – Firms which specialize in providing venture capital are still too new for a determination of their potential in financing research-based enterprises.

Approximately a half dozen venture-capital firms have operated in New England in the postwar period, and perhaps some 30 research-based enterprises in New England have received support from them.

Among the newest of the venture-capital firms is Vencap, Inc., established in 1955. Its founders believe that entrepreneurs can usually obtain from friends and other individuals sums of $20,000 and under. Sums of $500,000 and over attract the investment community through established financial channels. The company was founded to seek out and invest in situations offering opportunities for growth within this range.

A study by the Federal Reserve System concluded that since World War II venture-capital firms are less willing to enter a very small company. A sample of venture-capital firms reported without exception that they had withdrawn completely from the financing of brand new firms because of loss experience with such firms and the high risk involved. They prefer to enter a project after it has been in operation for a period of time. The venture-capital funds also have increased the minimum size for a project they will consider because of the large overhead expense involved in screening and managing this type of investment.

Phases of Financing

The first stage in the financing of the research-based firm often begins before the company comes into legal existence. Initial resources for this type of firm are often in the form of nonmonetary resources, particularly the research man-hours contributed by the entrepreneur in the formative stages.

The first outlay of real capital is required in the movement from paper and pencil ideas to testing of results. Sometimes this working out may involve a computer or testing equipment.

It is in this critical, initial phase that financing is the most difficult. There is no tangible product or working model, not even a clear idea of the form that the product, if one does result, will take.

Except in cases where entrepreneurs have a tangible product in their hands at the time they are looking for first money, they are seldom able to raise much cash from other sources than their friends and relatives.

When a firm gets past the initial stage its chances of outside financing improve. Investors become interested in the second stage if a tangible product exists or if the enterprise has done sufficient development work to indicate a good chance of a tangible product with a moderate additional investment.

In this interim period, before a public stock offering is feasible, a product is being sold and there is a basis for bank loans based on inventory and receivables. If it is government work, operations can be financed by progress payments.

What most of the firms in this stage find most difficult to obtain is a sizeable injection of new capital. Several components manufacturers reported in interviews that they had reached an impasse in expansion. They needed money for machinery to meet the prices of larger manufacturers who were using automatic machinery and could afford to devote a lot of resources to cut costs and promote products.

One firm was making a component in lots of 100. The firm's managers could see the market in terms of tens of thousands a year, at one-half the price, if they could produce in lots of 10,000. But they didn't have the equipment and staff.

The procedures for bringing investors into contact with the firm in this stage are not very efficient, but they do exist. By this time the enterprise has been doing business with the banking community and its business reputation becomes known. Its performance still may not be of public record, but it is capable of assessment by individual investors. Arrangements between individual investors and the firm are often negotiated on a personal basis, frequently through bankers or mutual friends. But the investor is not interested in advertising his availability, and the firm without the right kind of financial contact is at a serious disadvantage.

The third major financing stage begins when the company is in a position to make a successful public stock offering. The act of making a public offering by no means is a sign that the firm has solved its financing problems. Many investors will be unacquainted with the technical nature of the product. Their behavior in holding or selling stock will affect the firm's ability to raise further capital.

The public offering is often the beginning of a very difficult stage for the entrepreneur. Up until this time he has had relative freedom of action, subject only to the watchful eye of his original financer and his banker. When his business is partly owned by strangers, the pressure for divided payments may be high.

Many of these enterprises do not choose to make a public offering even if their size warrants it. They prefer to maintain control and grow from earnings, a process which may be more feasible at this stage than earlier.

Increasing Venture Capital

More capital could be made available for research-based enterprises by pooling risks through larger venture-capital funds and by facilitating communication between entrepreneur and potential investors.

Persons engaged in risk type financing have suggested several characteristics of the "ideal venture-capital firm."

First of all, such a firm should have access to a relatively large amount of money because of the risks involved in research-based enterprises. If it is going to have sufficient investments outstanding to hedge its bets, it will require at least as much capital as some of the large research-based enterprises have invested in research and development in the past few years. The size of the fund should run nearer $20 million than the $2 million to $5 million that most of them have now.

A second requirement is that funds supplied by a venture-capital firm must be patient money. As many large companies have learned, this "seed" money may take 5-10 years to bear fruit.

Third, the venture-capital firm should have available technical competence comparable to that in the large research-based company.

An undertaking of this type will require massive financial backing. Possible sources of this kind of financing are insurance companies, investment trusts, pension trusts, and banks. Few of these institutions are currently financing research-based enterprise. A single type of investment of this type might be too risky, but there would be much less risk to investment in a firm diversifying its risks through a project portfolio.

More venture capital would also be available from regular investors if channels of communication were improved. Many of the entrepreneurs of research-based enterprises confess to a complete ignorance of how to raise money. Several have stated that when they first went into business they didn't know a stock from a bond.

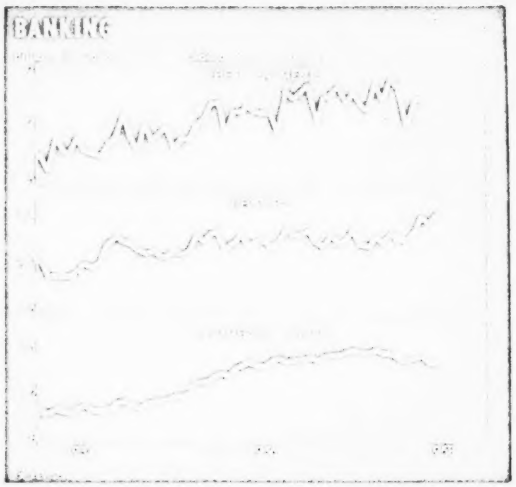
Persons with money to invest spend time "looking for situations" in a more or less random fashion or depend on existing financial institutions to pass on requests for funds which they cannot fill.

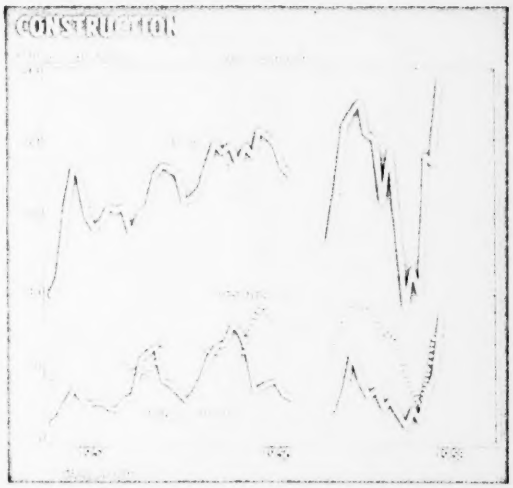
Despite the number of channels to bring money and ideas together there is still an apparent gap in this process that is not being filled. Information is available to investors and entrepreneurs only on a piecemeal basis.

Some intermediate agencies such as banks or development organizations could perform a vital function by listing and bringing together these two parties on a systematic basis. The agency could help the investor evaluate the opportunities for return on the investment and the technical feasibility of the firm's proposals.

The research-based firm, though risky, offers opportunity for large profits. More money is probably available for this kind of investment if better channels existed for bringing investor and entrepreneur together.

This is the second article in a series based on a study, *Problems of Financing and Managing New Research-Based Enterprises in New England.* Prof. Albert H. Rubenstein, Assistant Professor of Industrial Management, Massachusetts Institute of Technology, conducted the study with the aid of a research grant from the Federal Reserve Bank of Boston. Copies of the complete study are available from the bank's Department of Research and Statistics.





MANUFACTURING INDEXES (seasonally adjusted)	MASSACHUSETTS (1950–52 = 100)	Per Cent Change from:		NEW ENGLAND (1950–52 = 100)	Per Cent Change from:		UNITED STATES (1947–49 = 100)		
	June '58	May '58	June '57	June '58	May '58	June '57	June '58	May '58	June '57
All Manufacturing	105	+ 4	− 9	105	+ 4	−13	132	130	147
Primary Metals	90	+ 5	−16	79	+13	−23	99	91	132
Textiles	47	0	−11	66	+ 3	−10	n.a.	93	100
Shoes and Leather	103	+ 5	−17	101	+ 5	−11	n.a.	n.a.	106
Paper	97	+ 2	−12	117	+ 4	− 3	n.a.	153	159

	NEW ENGLAND	Per Cent Change from:		UNITED STATES	Per Cent Change from:	
	June '58	May '58	June '57	June '58	May '58	June '57
BANKING AND CREDIT						
Commercial Loans ($ millions) (Weekly Reporting Member Banks)	1,465	+ 1	− 7	29,560	0	− 6
Deposits ($ millions) (Weekly Reporting Member Banks)	4,420	+ 2	+ 5	101,829	+ 3	+ 8
Check Payments ($ millions) (Selected Cities)	8,090	+ 6	+ 6	219,447	+12	+14
Consumer Installment Credit Outstanding (index, 1950–52 = 100)	226p.	0	+ 2	n.a.	n.a.	n.a.
TRADE						
Department Store Sales (index, seas. adj. 1947–49 = 100)	115	− 2	− 6	134p.	+ 1	− 3
Department Store Stocks (index, seas. adj. 1947–49 = 100)	135	+ 2	− 2	n.a.	n.a.	n.a.
EMPLOYMENT, PRICES, MAN-HOURS, & EARNINGS						
Nonagricultural Employment (thousands)	3,483	+ 1	− 4	50,389	+ 1	− 4
Insured Unemployment (thousands) (excl. R. R. and Veterans programs)	209	−15	+103	2,749	−11	+112
Consumer Prices (index, 1947–49 = 100)	125.7 (Mass.)	0	+ 3	123.7	0	+ 3
Production-Worker Man-Hours (index, 1950 = 100)	80.4	+ 4	−14	89.5	+ 3	−14
Weekly Earnings in Manufacturing ($)	76.25 (Mass.)	+ 3	+ 2	83.10	+ 2	0
OTHER INDICATORS						
Construction Contract Awards ($ thousands) (3-mos. moving averages, Apr., May, June)						
Total	175,292	+ 6	0	3,367,725	+12	+ 7
Residential	62,066	+20	−13	1,316,875	+ 8	+ 8
Public Works	47,406	+ 5	+24	713,134	+21	+17
Electrical Energy Production (index, seas. adj. 1947–49 = 100)*	182.7	− 1	− 5	220.3	− 3	− 3
Business Failures (number)	65	0	+ 8	1,260	− 6	+ 6
New Business Incorporations (number)	740	+ 1	+ 7	11,991	+ 6	0

*Figure for last week of month

p = preliminary

n.a. = not available